



2019-20

Annual Report

Another Year of Accomplishments



Society for Promotion of Science & Technology in India

Taking science to the people is our Mission

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Society for Promotion of Science & Technology in India

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Annual Report 2019-20

- 1. Introduction:** The Society for Promotion of Science and Technology in India came into existence on Oct. 14, 2009. Since then, it has continued to grow steadily and to expand its activities mainly in Chandigarh, Haryana and Punjab. The year 2019-20 was another exciting year full of activities. Five activities, namely visit of Mobile Science Laboratory to schools, Summer Schools in Science and Mathematics, Quizzes for school students, Monthly Lectures and popular lectures on the subjects of importance have acquired the status of standing activities, i.e. regular and permanent in character. The Society had managed to raise funds for these activities. Our support staff performed well and have acquired the necessary expertise to execute all the activities with a high degree of finesse and quality.
- 2. Income and Expenditure:** The total income of the Society during the year 2019-20 was Rs 36,21,686. A sum of Rs. 9,99,815 was raised by way of donations and contributions. This includes a sum Rs. 5,00,000 lacs received from the Intel Corporation Ltd. The Society had also received grants amounting to Rs. 9,50,000/- from various other sources. Out of this, the Department of School Education had given a grant of Rs. 8.25 lacs for eleven summer schools (Rs. 75,000 per Summer School) held in Haryana and the remaining amount was granted by Department of Science & Technology, Chandigarh Administration. The total expenditure was Rs. 44,41,847. The excess expenditure was due to the Mobile Science Laboratory, for which the Society had received a sum of Rs. 19 lacs as grant from Department of Science and Technology, Government of India, during the year 2018-19 for operating the mobile science laboratory for a period from 01.12.2018 to 30.11.2020. The Society had also received Rs. 19,00,000 as second installment in March 2020 for Mobile Science Laboratory.
- 3. Mobile Science Laboratory:** The Mobile Science Laboratory, Circus of Science (Vigyan Ka Jantar-Mantar), is a premier and flagship activity of the SPSTI. Hon'ble Chief Minister of Haryana had launched it on April 06, 2016 from Karnal. The Society operated the Mobile Lab in Karnal district with the grant received from Hon'ble Chief Minister up to December 2016. In the meantime, the Society had received a grant of Rs. 23.68 lacs from the Department of Science & Technology, Government of India. The Lab had visited all the Secondary and Senior Secondary Schools in the district with DST support from January 01, 2017 to March 31, 2018. Thereafter, the Society kept operating the Lab with its own resources and submitted a proposal to the Department of Science and Technology, Government of India on September 27, 2018 for grant for another two years to operate the Lab in Kurukshetra and Mewat districts. On November 27, 2018, the Department sanctioned an amount of Rs. 39,02,216/- for a period of two years. A sum of Rs. 19,00,000 was received on Dec 06, 2018. The effective date of start of the DST funded project was December 1, 2018.
- 4. During the year 2019-20, the project received Rs. 15,00,000 as second installment from the DST. The expenditure in the year 2018-19 was Rs. 6,05,677 and Rs. 19,64,699 in 2019-20 on the operations of the Mobile Science Laboratory. A sum of Rs. 61,059 (Rs.18,447 in 2018-19 & Rs. 42612 in 2019-20) accrued on the first installment was deposited back to the Bharat Kosh, Government of India. Till the end of March 2020, 34 lacs had been received and Rs. 25,70,376 have been spent.**
 - i. School visits in Kurukshetra:** The Mobile Science Lab operates in close liaison with the district authorities and monthly route plans of visits to schools are prepared and

circulated amongst all concerned. During the year 2019-20, the Lab visited seventy-three government high schools and senior secondary schools and interacted with 11,283 students.



Students preparing slides and watching cells at The Gurukul Nilokheri, Karnal on 18.08.2019 (left) & Students Performing Neutralization Reaction at Govt. Sr. Sec. School, Bherian (Pehowa) on 04.09.2019



Students performing experiment of Base Tests at Govt. Sr. Sec. School, Bhateri (Pehowa) on 07.09.2019 (left) & Students performing experiment of Lenz's Law at Govt. Sr. Sec. School, Harigarh Borakh (Pehowa) on 09.09.2019 (right)

- ii. **School visits in Nuh, Mewat:** The Govt. of India has declared District Nuh an Aspirational District and therefore, DST has included in the scope of the Mobile Science Lab. Accordingly, it visited nine senior secondary schools of this district and interacted with 3,336 students. Community programs were also conducted in two villages to create awareness about the role of science by way of eye-catching demonstrations and the experiments. In addition, the Lab also visited Nuh during the Summer School.



Students Performing Experiment of Newton's First Law at Govt. Sr. Sec. School, Nagina (Mewat) on 22.08.2019 (left) & Students at Govt. Sr. Sec. School, Chhapera (Nuh) watching cells under Microscope on 13.11.2019 (right)

- iii. **Visit to Summer Schools:** The Society organizes summer schools in science & mathematics every year. During the year 2019-20, fifteen summer schools were held – Thirteen in Haryana and one each in Punjab and Himachal Pradesh. The Mobile Science Laboratory visited all the summer schools in Haryana from June 01-24, 2019 and spent one day at every school. During the visits, 658 boys and 631 girls of classes IX to XII interacted with the Lab and every student was encouraged to perform a few

experiments. Mentors of the summer schools also took full advantage of the equipments in the Mobile Science Laboratory.



Students at Summer School Kurukshetra attending demonstrations (04.06.2019)



Students at Summer School Yamunanagar attending demonstrations (07.06.2019)



Mentors from IITs & other premier Institutions demonstrating experiments at Summer School Panchkula (08.06.2019)

- v. **Science Exhibitions:** Science exhibitions have been an exclusive technique to explore more about scientific things around us. The Mobile Science Lab conducted few exhibitions in schools and for the community in general. More than 10,000 students, youngsters and elders in general interacted with the binoculars, telescopes, microscopes, mineral ores, and many other scientific things. A brief summary follows:

(a) Tagore Theatre, Sector-18, Chandigarh	(b) Mata Sundri Devi School, Village Dhade (Bathinda)
(c) International Gita Mahotsav, Kurukshetra	(d) Haryana State Teej Function, Kurukshetra University (Kurukshetra)
(e) Open Exhibitions in Nuh (Mewat)	

- a. **Exhibition at Tagore Theatre, Chandigarh:** During the popular lecture “From Sun, Moon & Stars to Calendar” delivered by Prof. T. Padmanabhan (Padma Shri), Distinguished Professor, IUCAA Pune, Mobile Science Laboratory displayed all its scientific equipment. More than 700 students, teachers and public attended the lecture. Most of them had also interacted with the experiments.



- b. Exhibition at Mata Sundri Devi School, Bathinda:** Mata Sundri Devi School, Village Dhade in district Bathinda is a not-for-profit organization for girls' education up to senior secondary at Bathinda. The Mobile Lab had visited the School for One-day Science Exhibition cum Interactive Session on 25.11.2019. More than 300 students participated in the demonstration of experiments. Most of them also performed a few experiments.



- c. Exhibition at International Gita Mahotsav, Kurukshetra:** International Gita Mahotsav is celebrated every year at the banks of Asia's largest pond "Brahma Sarovar" from November 23 to December 08, 2019. Lacs of people from all over the world visited Kurukshetra and attended the event. The unique feature this year was participation of the ISRO and the DRDO, which had also set-up their stalls. The Mobile Science Laboratory – Circus of Science had also participated and exhibited its equipment. It also organized sky-watch by the name of "Sky – Watch – सितारों से मुलाक़ात". The Society had deployed a high quality (35x to 175x zoom) Celestron Power Seeker 700/60mm Telescope and two binoculars for viewing the surface of Moon. The public was thrilled to watch the craters of the moon and several other scientific activities. More than 700 persons visited the stall per day. About ten thousand persons visited the stall and handled & observed the scientific equipment.



- d. **Exhibition at Haryana State Teej Function, Kurukshetra:** Haryana State Teej function was organized by Haryana State Child Welfare Society at Kurukshetra University, Kurukshetra on August 05, 2019. Smt. Mamta Kataria w/o Cabinet Minister Sh. Ratan Lal Kataria was the Chief Guest. The Mobile Science Laboratory was invited by Sh. Krishan Dhull, Honorary Secretary, HSSCW to exhibit its scientific equipment. Accordingly, the SPSTI had put a stall. Several thousands of students, teachers and Government Officials visited the SPSTI's stall. The visitors were encouraged to handle equipment, especially telescope and binoculars, and perform a few experiments.



Smt. Mamta Kataria, Sh. Subhash Sudha (MLA, Thanesar) & Sh. Krishan Dhull (Honorary Secretary, HSSCW) visiting the Mobile Science Lab



Students of various Schools from across Haryana interacting with the equipment

- e. **Science Exhibition-cum-Interaction Session at Nuh (Mewat):** The Mobile Science Laboratory visited Nuh, Mewat in the month of November 2019. Due to high smog, the schools were closed without notice. The Lab. then conducted open science exhibition in consultation with Shri. Pankaj Kumar, IAS, Deputy Commissioner, Nuh. A large number of children and common people interacted with the scientific equipment. The Demonstrators performed several eye-catching experiments and tricks of science creating awareness for science.



Demonstration of Heart Model (Left) and Students interacting with Newton Cradle (Right) on November 05, 2019 near DC Camp Office, Nuh



Open Science Exhibition at Village Ferozepur Namak, Nuh on November 09, 2019

- vi. **Evening Community Interaction Programs:** One of the key components of the Mobile Lab is to interact with the community of the villages in the evening during vacation (Yes it is during vacations only and not in evening after the school visit) of the school. The Lab shows videos on general science, space, forest and wild life, health, agriculture, animal husbandry etc. to create awareness about what is happening in our country and around the world. In nutshell, it has all necessary equipment, audio-visual systems etc. to hold such sessions. Nine community programs were conducted during the period January 1, 2020 to January 18, 2020 and 463 persons including children, adults and senior citizens participated and interacted with the equipment as well.



Community Program at Village Pratapgarh (Thanesar) & Sky Watch during the Community Program in village Mathana, Thanesar

- vii. **Career Awareness Programs:** While visiting the schools, it was observed that there is a large gap between the understanding of core subjects and options in secondary and higher education and career. Keeping this in mind, the Mobile Science Laboratory – Circus of Science initiated a village intervention career awareness program in district Kurukshetra. In all, seven career awareness programs were conducted from January 05, 2020 to January 31, 2020 in Kurukshetra (Haryana). Students were given exposure about all the aspects and career options for the students after secondary education. The series of Seminars commenced with science experiments of creating fire with chemicals and ended with demonstration of many eye catching science experiments and equipment's in Mobile Science Laboratory.



Eye catching experiments demonstrated at village Mirzapur (left) & demonstration of Earth's Magnetic Field Lines among students at village Bhadson (right)

5. **Summer Schools:** This is one of the flagship programs of the Society. During the summer of 2019, fifteen summer schools were organized –thirteen in Haryana and one each in Punjab and Himachal Pradesh for the students of Classes IX to XII.
- All Schools were of three to four weeks' duration.
 - Eleven out of thirteen schools in Haryana were supported jointly by Department of School Education, Government of Haryana and Intel Corp. Ltd. One Summer School at Yamunanagar was also supported by ISGEC Heavy Engineering Ltd.
 - The Summer School held at BMB Senior Secondary School, Dadawas and another at Doon Public School, Ladwa, Haryana were supported by the respective schools.
 - The Summer School in Punjab was held at Maur Mandi, Bathinda in association with another NGO, Maur Education Welfare Society with mutual support.
 - The Summer School in Sundernagar, Himachal Pradesh was held with the support of Bhakra Beas Management Board, Government of India.
- f. **Locations of Summer Schools:**
- Haryana:** Ambala, Dadawas (Gurugram), Faridabad, Gurugram, Jind, Kaithal, Karnal, Kurukshetra, Mewat, Ladwa (Kurukshetra), Palwal, Panchkula and Yamunanagar.
- Punjab:** Maur Mandi (Bathinda)
- Himachal Pradesh:** Sundernagar
- g. **Mentors:** Eighty-four students (Seventy-four for Haryana, three for Punjab and four for Himachal Pradesh, two for monitoring and one for analysis of summer schools) of IITs, IISER Mohali, Panjab University, Central Universities, St. Stephen's

College Delhi, NIT Kurukshetra and a State University of UP were engaged as intern-cum-mentors. Out of 81 mentors deployed, **sixty-three** were boys and **eighteen** girls. The institution-wise distribution of mentors was: **25** from IITs, **12** from NITs, **13** from Central Universities, **19** from IISER Mohali, **06** from Panjab University, **02** from BITS Pilani and the rest **04** from other institutions.

h. Methodology of Teaching during Summer Schools: Broadly, the following strategy was adopted: -

- a. Emphasis on concepts and basic principles,
- b. Teaching through PPT presentation wherever possible,
- c. Problem solving,
- d. Doubt clearance sessions,
- e. Home-work and their timely correction, and feedback
- f. Short revision notes on important topics,
- g. Frequent tests – weekly as well as snap tests,
- h. Final test and prizes,
- i. Group exercises,
- j. Display of a few interesting experiments and short videos on science,
- k. Celebration of special days: Environment Day and International Yoga Day,
- l. Career Counseling: Mentors also valuable resource persons for options in higher education and careers.

i. Number of Students: The Department of Education, Government of Haryana and District Education Officers of the district concerned were requested to sponsor good and willing students of Government Schools. The President had also interacted with the District Education Officers and their officers and requested them to sponsor willing and sincere students. While the number of students, who applied was large, but only 1,470 joined and 900 successfully attended them till end. The district-wise number of students, who completed the Summer Schools, is given in Table-2. The reasons for drop-outs were: - (i) late sponsoring of students by schools, (ii) selection process, (iii) poor fundamentals and slow pace of learning, (iv) tuition classes and (v) family commitments. The students, who attended the Summer Schools for the entire duration, were committed and showed a considerable improvement.

j. Feedback: Feedback was obtained from the Mentors as well as the students who completed the Summer Schools. Analysis was performed by the SCERT Gurugram in respect of four summer camps , held at Faridabad, Palwal, Mewat and Gurgaon and the remain seven was conducted by the a team of Research Scholars of IISER Mohali. The feedback was very positive and encouraging. The students wanted such camps of longer duration as well as short interactions at regular intervals during the year.

k. Expenditure: The Summer School at Maur Mandi, Punjab was held in collaboration with another NGO, Maur Education Welfare Society, which met all the expenditure. Similarly, the summer schools at Ladwa & Dadawas were in collaboration with the local schools, which met the expenditure. For the remaining four of eight Summer Schools, the SPSTI had raised the funds. The Summer School at Yamunanagar was organized in association with another Society. The SPSTI had met the expenditure on supervision, guidance, certificates and other such common items. In all, the SPSTI had spent a sum of Rs. 17,17,399 on the Summer Schools. The expenditure was met by the grants/donation from DSE, Govt. of Haryana, Intel Corporation Ltd. and BMB Sr. Sec. School, Dadawas.



Orientation Program for Mentors Training held at Parakeet Tourist Resorts, Pipli, Kurukshetra on May 31, 2019



Inauguration of Summer School Kaithal (left) & Summer School Mewat (right) (June 01, 2019)



Classroom Teaching during Summer School at Govt. Girls Sr. Sec. School, Police lines, Ambala City (left) & Govt. Girls Sr. Sec. School, Jakholi Adda, Kaithal (right)



Mentors taking doubt clearing sessions during Summer School at Govt. Boys Sr. Sec. School, Karnal June 06 (left) and June 13, 2019 (right)



Students performing experiments at Govt. Boys Sr.S ec. School, Karnal June 05 (left) & June 15, 2019 (right)



Students performing experiments at Govt. Girls Sr. Sec. School, Jakholi Adda, Kaithal, June 06, 2019 (left) and June 13, 2019 (right)



Robotics Session at Govt. Model Sr. Sec. School, Kurukshetra (June 21, 2019)



Mobile Science Laboratory during Summer School at Govt. Model Sr. Sec. School, Kurukshetra on June 06, 2019



Carrer Guidance Lecture at Summer School Kaithal (left) & Summer School Jind (right) by Er. M.L. Garg (FIE), Former SE, Irrigation, Govt. of Punjab (June 10, 2019)



Certificates distribution during Closing of Summer Schools at Govt. Sr. Sec. School, Nuh & Govt. Girls Sr. Sec. School, Police Line, Ambala City (June 24, 2019)



Shri Dharam Vir, President, SPSTI visited for inspection at Summer School Kaithal (left) and Summer School Mewat (right)



Prof. Keya Dharamvir interacting with students at Summer School Mewat (12.06.2019)



Sky-Watch during Summer School at BBMB School, Sundernagar (H.P.)

6. How and Why Monthly Lecture Series: The Monthly Lecture Series is one of the standing activities of the Society. Efforts are made to hold such lectures as often as possible. However, due to examinations and admissions, it has not been possible to hold lectures every month. During the year 2019-20, the following six lectures were held under the Monthly Lectures Series: -

- i. **Title: Mathematics is everywhere but not visible like God**
Speaker: Prof. A.K. Agarwal, Department of Mathematics, Panjab University
Date and Time: February 29, 2020 at 11:00 AM
Venue: Seminar Room, Department of Mathematics, Panjab University, Chandigarh
Summary: Professor Agarwal says that the contribution of mathematician is under recognized. Even learned people belonging to other branches of science consider it superfluous to teach abstract mathematics such as algebra and topology. Similarly there are many who feel that mathematics is a dead science. However we are living in the era of digital communication, and satellite communication is based on coding theories which use finite field theories, a part of algebra. If we stop teaching and learning algebra then will such communication theories and practices develop? Similarly, Cryptography uses prime numbers, whereas topology is used in data science. There is a plethora of such examples. Understanding the universe from Galileo to Kepler to Newton to Einstein, has been possible only because of mathematics. The ignorance of some people could not recognize the importance of mathematics which is applied in every walk of life.
- ii. **Title: Who will Feed India?**
Speaker: Pallav Mukharjee
Date and Time: November 30, 2019 at 10:00 AM
Venue: Institute of Forensic Science, Panjab University, Chandigarh
Summary: It is not just India – it has now become a global problem. Farmers, as we used to know them, are finished. The returns on agriculture are diving downwards. There is a big difference between the earnings of a small farming household and a big farming one (having at least 10 hectares). Clearly, farmers are not earning a profit from their produce. A survey of 23 crops for investment and income during 2004-2014 shows that barring a few, a farmer is no more making any money. In addition, there exist other problems – toxic lands, disappearing water, receding aquifers, increasing farm input costs, loss of workforce, land grab – by industry and urban growth, politics & appeasement, lack of voice in the polity, lack of unions to fight for their cause, lack of public perception or visibility, changing governmental policies, which are anyway subservient to powerful industrial, commercial or real estate lobbies; plus desertification and climate-change. Even God seems to be against the farmer! The

agricultural sector has come under pressure in recent years amid sinking commodity prices and climbing production costs.

- iii. **Title:** Preventive Measures of LPG, parcels & mobile explosions in day-to-day life

Speaker: Dr. Sehgal

Date and Time: October 12, 2019 at 10:00 AM

Venue: Centre for Forensic Science, Panjab University, Chandigarh

Summary:

Dr. Sehgal served as Forensic Scientist in the Department of Forensic, Punjab Government for more than 30 years. He is M.Sc. (Hons.) in Chemistry, M.Phil in Chemistry and PhD in Explosives. He solved many complicated case related with firearms, Explosions and Arson. Apart from his office work he is fond of KITE FLYING and making beautiful educational kites to teach students. His name is recorded in LIMCA Book of Records for Making Smallest Kite of the World. Dr. Sehgal has received several awards: Punjab State Award in the field of Art in 2003; Chandigarh State Award in the year 2010; Jal Star Award, Jio Dil Se Award and Green Idol Award by Bhaskar Group of news paper He was invited to participate in the International Kite Festival in China, South Korea, Poland, Cape Town. We all are using liquid petroleum Gas (LPG) in our kitchens and smart Mobile phones in our day to day life without caring much with respect to their important precautions of handling them for our safety.

We all must strictly follow certain parameters while using LPG and smart phones for our safety and the safety of our near and dear otherwise there can be high explosion resulting loss of life and property. Parcel bombs are especially prepared for harming the. (Pl see the press-note)

- iv. **Title:** Retaining the Human Element in an Era of Pervasive Technology

Speaker: Vivek Attray, IAS (Retd.)

Date and Time: June 15, 2019 at 10:00 AM

Venue: Central Instrumentation Lab, Panjab University, Chandigarh

Summary:

Vivek Attray is a multi-faceted person; an author, motivational speaker, mentor and independent advisor. He retired voluntarily from the IAS in 2017. He is an Ex-under-19 Cricketer. He speaks on Emotional Intelligence, Leadership, People Skills and Behavioral Issues. He has one million views on YouTube.

Giving examples of 'pervasiveness' in technologies, he cited cell-phones, WhatsApp, Google, Siri and various genres of AI. With the ubiquitous mobile in their pockets, youngsters today, though techno savvy, are perceived as lacking common sense. This intruder in the lives of the modern human has taken away a lot of the human element in interactions. Even today, those belonging to earlier generations crave for the human interaction in their daily lives, such as preferring to visit the bank just to exchange smiles and pleasantries, rather than online transactions.

- v. **Title: Industry-Academia R&D in India... a way forward**

Speaker: Prof. Rupinder Tiwari, Coordinator, DST-Centre for Policy Research

Date and Time: May 18, 2019 at 10:00 AM

Venue: Central Instrumentation Lab, Panjab University, Chandigarh

Summary: Prof Tewari highlighted that in present situation, there is growing application of science and technology in developing new technologies to provide cost effective solutions to diverse problems around the world. In developed countries, there is strong collaboration between industry and universities in developing new technologies and improving the existing through R & D funded by the industry. However, in India, there is not a strong linkage between academia and industry. Prof. Tewari also highlighted the issues and suggested that Central and State governments should work with industry to develop technologies and processes to manufacture goods and services to handle such requirements.



- vi. **Title: Creativity in Science & Technology**
Speaker: Prof. S.K. Mehta, Department of Chemistry, Panjab University
Date and Time: April 27, 2019 at 9:30 AM
Venue: Seminar Room, Central Instrumentation Lab, Panjab University, Chandigarh
Summary: Prof Mehta emphasized that the development of a nation is linked with development and application of technologies. In the rapidly changing technology worldwide, it is important for India to also invest in emerging taking technologies to tackle with the local problems. Technological solutions depend upon advances in science. While science accrue knowledge by gathering analysis and understanding facts, at the same time technology applies the scientific knowledge for designing, innovation and development of technologies for production of goods and services to meet the emerging needs of the society. Science and technology are closely associated each other like two sides of a coin. Therefore, for each nation to get developed at every aspect, it is important for India to invest substantially in research and development of both science and technology as they go hand in hand and reinforce each other and the government must fund such research and development activities on a larger scale.

7. **Lectures on Nobel Prizes:** The lectures on Nobel prizes were conducted in various colleges of the Chandigarh. The series was supported by Department of Science & Technology, Chandigarh Administration. The following lectures were arranged:

- i. **Lecture on “Cosmology” (09 Nov, 2019) by Prof. J.S. Bagla:** Prof. Bagla explained about the Nobel Prize in Physics 2019 that was awarded “for contributions to our understanding of the evolution of the universe and Earth’s place in the cosmos” with one half to James Peebles “for theoretical discoveries in physical cosmology”, the other half jointly to Michel Mayor and Didier Queloz “for the discovery of an exoplanet orbiting a solar-type star.”



Students asked many questions on Space, Dark Energy, Bing Bang Theory, Black Holes, Hubble Telescope, Thermal Images etc.

- ii. **Lecture on “Life & Times of C.V. Raman” (09 Nov, 2019):** Prof. Keya Dharamvir, Formerly of Panjab University delivered the lecture on Life & Times of Sir C.V. Raman at Dev Samaj College for Women. Prof. Keya Dharamvir uncovered many interesting facts about the Nobel Laureate Sir C.V. Raman as her title was “Life & Times of C.V. Raman”. The sessions were very knowledgeable for the students. The Lectures were supported by Department of Science & Technology, Chandigarh Administration.



Prof. J.S. Bagla (left) and Prof. Keya Dharamvir (right) delivering lectures on Noble Prizes in “Cosmology” & “Life & Times of C.V. Raman” respectively

- iii. **Science Day Celebration at D.A.V. College, Sector – 10, Chandigarh (26 Feb, 2020):** In a series of events conducted by Dr. A.P.J. Abdul Kalam Physics Society, D.A.V. College, a lecture on “Looking for Atomic Hydrogen in Distant Galaxies” was delivered by Prof. J.S. Bagla, IISER Mohali on February 26, 2020 in mini-auditorium of the D.A.V. College, Sector-10, Chandigarh. Prof. Bagla took the audience on a trip from Giant Meterwave Radio Telescope (GMRT) to the development of more sophisticated antennas to detect emission of atomic hydrogen from distant galaxies and identify stars and galaxies. There was a healthy question-answer session after the lecture. The Lecture was organized under the banner of Nobel Prize Lecture Series being carried out by SPSTI in various colleges of Chandigarh and are supported by Department of Science & Technology, Chandigarh Administration.



8. **Third CV Raman Physics Quiz:** The Third Raman Physics Quiz was organized for schools of Chandigarh at the Bhavan Vidyalaya, Sector-27B, Chandigarh on August 26, 2019. In all, fifty-seven teams of thirty-two schools of Chandigarh participated in the Quiz. Every School was allowed to sponsor up to two teams, each comprising of two students. Smt. Vineeta Arora, Bhavan Vidyalaya felicitated the winners and gave away the prizes and certificates. The jury comprised of Prof. K. P. Singh of IISER Mohali and Prof. Suman Beri of Panjab University. The Quiz was supported by the Department of Science and Technology, Chandigarh. As a prequel to the first round of the Quiz, Professor Keya Dharamvir, SPSTI’s General Secretary had demonstrated several interesting and eye-catching experiments to generate curiosity for and interest in physics amongst the students. In this novel format, questions were asked based on these experiments. The team consisting of the duo Aditya Prasad and Hirdal Singh of Delhi Public School, Chandigarh won the quiz. Two teams, namely Nikhil Goyal and Hargun Singh Walia of Bhavan Vidyalaya and Jaisidh Singh and Sachin Singh of Sri Guru Gobind Singh Collegiate shared the second position. Pranshu and Bhavya Kohli of Pt. Mohan Lal SD Public School got the third position.



9. Popular Lecture on Sun, Moon & Stars to Calendar: In view of growing interest in space sciences and cosmology in the public, especially among students, the Society for Promotion of Science & Technology in India (SPSTI) had organized a public and popular lecture on From Sun, Moon and Stars to Calendar at the Tagore Theater, Chandigarh on September 27, 2019. The speaker was Professor T. Padmanabhan (Padma Shri), a well-known astrophysicist and Distinguished Professor at Inter University Centre for Astrophysics and Astronomy, Pune. The Department of Science and Technology, Chandigarh Administration had supported the lecture. A large number of students, teachers and public attended the lecture which was followed by an intense discussion and question answer session.



The students who attended the lecture were from schools of Punjab, Haryana and Chandigarh. In spite of heavy rainfall on the day, the theatre was full with students from Lehra Gagga (Sangrur), Village Kutiwal (Bathinda), Ladwa, Kurukshetra and Chandigarh.

10. Celebration of International Year of periodic Table (IYPT – 2019): The year 2019 was celebrated as International Year of Periodic Table for completion of 150 years of the Periodic Table of Elements which forms the basis for classification of elements for better understanding of their properties and application. SPSTI and Chandigarh Chapter of the Humboldt Foundation (AvH) with initiative of Prof. Alok Srivastava, Emeritus Scientist, Panjab University, joined hands to celebrate International Year of Periodic Table (IYPT 2019) by organizing a few events in schools and colleges with a view to inculcate in their students an interest in the Periodic Table, as well as science in general. This program was supported by the Department of Science and Technology, Chandigarh Administration. The events included lectures, poster making, essay writing and declamation competitions. The series of events were earlier decided to be concluded on the National Science Day by organizing a practical based quiz competition on periodic table, which couldn't be conducted due-to board exams.

- i. **Lecture on Transuranic Elements of Periodic Table (24.01.2020) at GGDS College, Sector-32, Chandigarh:** The Lectures was delivered by Prof. Alok Srivastava of Panjab University at the Goswami Gansesh Dutta Sanatan Dharma College. Prof. P.V. Bharatam, former Director, NIPER Mohali, Dr. Balraj Thapar, Principal, GGDS College and Prof. Sajeev Soni, Dean Sciences were the invited guests. Prof. Srivastava interacted with the undergraduates explaining several important aspects of the Periodic Table, how & when's of the discovery of various elements, radioactive isotopes, stability of nucleus, actinides, super-actinides, etc.



- ii. **Periodicity as Function of Elements Properties (25.01.2020) at Govt. Model Sr. Sec. School, Sector-23, NYC, Chandigarh:** The lecture delivered by Prof. Tej Vir Singh, NIPER Mohali started with the role of the elements of the Periodic Table in daily life. Prof. Singh discussed about life cycle from Bing Bang to the today's world and various atomic properties of the elements.



- iii. **Periodic Table & its Importance in Chemistry (29.01.2020) at Post Graduate Government College for Girls, Sector-11, Chandigarh:** The Lecture was delivered by Prof. K.K. Bhasin, CSIR Emeritus Scientist, Centre of Advanced Studies in Chemistry. Prof. Bhasin started with brief discussion about IYPT followed by journey of discovery of elements (1650-2017) and discussion about eminent scientists and Nobel laureates who contributed to the development of Periodic Table. He touched very important and interesting aspects of the Periodic Table while demonstrating eye-opening experiments on the spot. Prof Bhasin also presented many daily life examples of importance of periodic table in understanding the properties of common elements.



- iv. **Fascinating World of Periodic Table (19.02.2020) at Govt. Model Sr. Sec. School, Sector-40, Chandigarh:** The Lecture was delivered by Prof. A.K. Srivastava, Department of Chemistry of Panjab University. One-hundred-twenty-four students of classes 9th & 11th attended the lecture which covered many interesting facts about the periodic table.



- 11. Health Awareness Lectures on Coronavirus:** The novel Coronavirus has created the huge stir all over the globe since November, 2019. Spreading out from Wuhan in China, it has gained notoriety as COVID-19. It was the need of the hour to spread awareness about its prevention and containment as there is no cure of date.

- i. **Lecture on Coronavirus Outbreak at Tribune Public School, Sector-29, Chandigarh (04 March, 2020):** Society for Promotion of Science & Technology in India (SPSTI) organized an awareness lecture on Coronavirus at Tribune Model School, Sector-28, Chandigarh on Wednesday. The lecture was delivered by Prof. Dr. S.K. Jindal, Former Head, Department of Pulmonary Diseases, PGIMER, Chandigarh. Coronaviruses are a large family of viruses that are common in people and many different species of animals like camels, cattle, cats and bats, etc. Most people infected with COVID-19 virus have mild disease and recover. This is one of the few viruses which have spread from animals to people and then people to people, like those causing SARS and MERS. Prof. Jindal, while addressing the faculty of the school highlighted that where 80% of laboratory confirmed patients have had mild to moderate disease which includes non-pneumonia and pneumonia cases, about 3.4% of reported COVID-19 cases have died in contrast to the seasonal flu that kills far less than 1% of those infected. “While people around the world may have built up immunity to the flu over time, the novelty of the coronavirus means no one yet has immunity and more people are susceptible to infection”, he added. The signs and symptoms can range from no symptoms (asymptomatic) to severe pneumonia. Prof. Jindal talked about samples to test, laboratory diagnosis, face masks, risk assessment, transmission & susceptibility, treatment and prevention & control measures.



- ii. **Lecture on Coronavirus Outbreak at Moti Ram Arya Senior Secondary School. Ector-27, Chandigarh (12 March, 2020):** Another lecture was organized at Moti Ram Arya Senior Secondary Model School, Sector-27, Chandigarh. More than 200 students and teachers attended the lecture. Prof. Jindal explained that COVID-19 is an infectious disease but is less severe and fatal than many other diseases already there in the community. He advised the teachers and students to adopt good hygienic measures and precautions.



They should not move around in crowded areas. He also highlighted that the people with old age or chronic conditions such as lung disease, heart disease, diabetes or immune problems are at higher risk for severe illness including corona virus. Prof. Jindal emphasized on avoiding spread of un-confirmed information which is being circulated on social media and advised the teachers and students to contact doctors in case of any doubt or suspicion.

Shri Dharam Vir, IAS (Retd.) and Former Chief Secretary of Haryana , President SPSTI interacted with students and faculty of the school motivating them to adopt hygienic practices in daily life activities. Dr. Seema Biji, Principal of the School paid vote of thanks to the speaker and the guests.

- iii. **Lecture on Coronavirus Outbreak at Ajit Karam Singh International Public School, Sector-45, Chandigarh (13 March, 2020):** The lecture was delivered by Prof. Dr. D. Behera, OSD, AIIMS, Raebareli and Former Head, Department of Pulmonary Medicines, PRIMER, Chandigarh. Dr. Behera initiated with history of coronavirus and its variants & explained that the pathogen has been identified as a novel enveloped RNA betacoronavirus that has been named severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) which has a phylogenetic similarity to SARS-CoV. He explained about various types of masks and personal protection equipment (PPE) kits & correct methods of wearing the masks.

12. Invited Talk at IPA National Conference towards Gender Equality in Physics: The School of Physics of the University of Hyderabad hosted 240 physicists, social scientists and educationists for three days during 19-21 September, 2019 to bridge disciplinary divides and debate the long-standing question as to why there is a persistent gender gap in the physics profession in India.

The conference, titled 'Pressing for Progress 2019: An IPA National Conference towards Gender Equity in Physics', was driven by the Gender in Physics Working Group of the Indian Physics Association, chaired by Professor Prajval Shastri. The TIFR (Center for Interdisciplinary Sciences) partnered in the organization of the conference. Prof. Keya Dharamvir, General Secretary, SPSTI along with Prof. Suman B. Beri presented the model of summer schools for girls conducted by the society every year. This was a prestigious conference supported by DST and attended by women (as well as some men) scientists from eminent science institutions in India. Prof. Keya Dharamvir made two presentations in this conference. One was a technical presentation, 'Ion beams on Carbon Nanomaterials' and the second, which has to do with SPSTI, "A model on summer schools for girls". This talk aroused a lot of interest and quite a few among the audience showed interest to join and to carry out parallel activities.

A Model for Mentoring and Motivating Young Girls for STEM Careers

Keya Dharamvir, Department of Physics, Panjab University, Chandigarh & Society for Promotion of Science & Technology in India

During the month of June, when holidays of the schools and universities/institutions coincide, we recruit, for a month, students from the institutes of higher education, to teach Science and Mathematics to selected students of classes IX to XII. The mentors themselves act as role models and motivators, exposing children to excitements in Science. Cost: Rs. 1.8 lacs per summer school (6 months, 200 students)

Mentors: IITs, IISERs, IITs, Central & other Universities, BITS from Engineering, Science, Pharma, Maths & Economics Streams

Stay connected for

- Advise on studies and options
- Help with applications
- Help with arranging finance
- Try visiting in winter

COMMON ISSUES AND OBSTACLES

- Culture (stereotypes)
- Economics (Household chores)
- Safety and security (School too far)
- Discrimination
- Lack of examples

Chalk and Board, ICT: NMI- rote learning – understand and enjoy

Lab work: Understanding & bonding to strengthens the evidence-base on what works, & does not work

Exposure to Career Opportunities & Jobs

- How to prepare and apply?
- Which college to Choose & for what?

Girls in STEM Inspire girls towards STEM

Girls will have to expand their sense of "What is Possible"

*55 Summer Schools have been held in Haryana, Punjab & Himachal Pradesh under the aegis of SPSTI (Regd. Society)

13. Workshop at Shady Oak Primary School, Richmond, Texas, USA: Prof. Keya Dharamvir during her visit to USA conducted a workshop for the students of Primary School on January 21, 2020. Prof. Keya demonstrated some experiments with magnets to children of classes 1 to 5. For around one hour they watched with rapt attention and could also perform some experiments themselves. They found it most interesting that iron fillings can be moved and collected using magnets.



14. Celebration of National Science Day:

- i. Invited Lectures at Govt. College for Girls, Sec-14, Panchkula (11 February, 2020):** Prof. Keya Dharamvir, General Secretary, SPSTI and Dr. Tamanna R. Sahrawat of Panjab University delivered Lectures on "Nanotechnology" and "Computational Biology: New Paradigms" respectively during "International Day of Women in Science" organized by Department of Science & Technology, Govt. of Haryana at Government College for Girls, Sector-14, Panchkula on February 11, 2020.



- ii. **Workshops on Advancements in Modern Sciences (26 February, 2020):** The Society for Promotion of Science & Technology in India (SPSTI) conducted one-day experimental workshop on “Advancements in Modern Sciences” at D.A.V. College, Sector – 10, Chandigarh on February 26, 2020. Sixty students of B.Sc. & M.Sc. participated in the hands – on – experimental workshop with Prof. Keya Dharamvir, Formerly of Panjab University as Resource Person. Prof. Dharamvir along with volunteers explained many interesting facts about sensors and their availability and use in daily life. A number of experiments including time-period of simple pendulum, string length, acceleration, velocity, angular velocity, motion, magnetism etc were demonstrated and real-time values were discussed thereof.



15. **Teacher’s Training Workshop to enhance scientific temperament (26 April, 2020):** A two-day’s teacher’s training workshop to enhance scientific temperament among teachers and students was conducted at Central University of Punjab, Bathinda. The event was organized under Ministry of Human Resource Development’s (MHRD) Rashtriya Avishkar Abhiyaan, in collaboration with Tata Institute of Fundamental Research. The inaugural session was presided over by Vice-Chancellor, Prof. R.K. Kohli. The keynote speaker of the event was Prof. P.K. Joshi from Homi Bhabha Centre for Science

Education (HBCSE). The program aimed at providing hands-on experience in experiments related to physics, chemistry and biology, designed at HBCSE, Mumbai. Thirty teachers from various institutions of Bathinda participated in the workshop.

Schools -2019	IITs	NITs	CU	IISERM	PU	BITS	Others	Total
Ambala								
Boys	02	-	-	02	-	-	-	04
Girls	-	-	-	01	01	-	-	02
Faridabad								
Boys	02	-	-	-	-	-	-	02
Girls	02	-	02	-	-	-	-	04
Gurgaon								
Boys	01	01	-	01	-	-	01	04
Girls	-	01	01	-	-	-	-	02
Jind								
Boys	03	01	-	02	-	-	-	06
Girls	-	-	-	-	-	-	-	-
Kaithal								
Boys	01	-	02	01	-	02	-	06
Girls	-	-	-	-	-	-	-	-
Karnal								
Boys	-	02	-	01	-	-	-	03
Girls	02	-	01	-	-	-	-	03
Kurukshetra								
Boys	02	01	-	01	-	-	-	04
Girls	-	-	-	01	01	-	-	02
Mewat								
Boys	01	01	02	01	01	-	-	06
Girls	-	-	-	-	-	-	-	-
Palwal								
Boys	01	02	-	01	01	-	01	06
Girls	-	-	-	-	-	-	-	-
Panchkula								
Boys	01	01	-	01	-	-	01	04
Girls	01	-	01	-	-	-	-	02
Yamunanagar								
Boys	01	01	01	01	-	-	-	04
Girls	01	-	-	-	01	-	-	02
Dadawas								
Boys	01	01	02	02	-	-	-	06
Ladwa								
Boys	-	-	-	02	-	-	-	02
Sundernagar								
Boys	02	-	-	01	01	-	-	04
Maur-Mandi								
	01	-	01	-	-	-	01	03
Monitoring at Head Office	School Teacher							01
Monitoring at Gurugram	Mentor from IIT							01
Analysis of Summer School	Mentor from IISER, Mohali							01
Total	25	12	13	19	06	02	04	84

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अमर उजाला

शुक्रवादि

दिल्ली मी एस प्रशासन पढ़ें नैवल-16

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जिले के स्कूलों को मिलेगा मोबाइल लैब का लाभ



अमर उजाला व्यूरो

जिले के हर स्कूल में छात्र-छात्राओं की शिक्षा के क्षेत्र में महत्वपूर्ण प्रदान करने का प्रयास कर रहे हैं, इस दिशा में कार्य किया जा रहा है। 'भविष्य में जिले के अन्य स्कूलों में भी विज्ञान की गतिशीलता के लिए कार्य किया जाएगा।'

कैप्टन इंदु शोकन कसाना, जिला शिक्षा अधिकारी मुहाना

जिले में विज्ञान को बढ़ावा देने के लिए शिक्षा विभाग ने पंचकूला की सोसायटी फॉर प्रमोशन ऑफ साइंस एंड टेक्नोलॉजी इन इंडिया के साथ मिलकर एक पहल की है, जिसके तहत स्कूलों में छात्र-छात्राओं को विज्ञान की आधुनिक तकनीक का लाभ दिया जाएगा। इसका लाभ कक्षा छह से 12वीं तक के बच्चों को दिया जाएगा। इन स्कूलों में दी जाएगी सुविधा : मोबाइल लैब का लाभ जिले के राजकोष खरीद कार्यक्रम विद्यालय बरदपुर, बजिपुर, नरना, मंडीखेड़ा, राजकोष कन्या खरीद कार्यक्रम विद्यालय गौना को मिलेगा। अने खले दिनों में मोबाइल साइंस लैब नूह के अन्य सरकारी स्कूलों में भी शुरू की जाएगी। इन विषयों को मिलेगा लाभ, लैब के सेक्टर व कॉन्टिनेंटर इन्वीन्टर अमूल गैस, मॉडल रूम और जिला विज्ञान विज्ञान इंग्रम खान बनाने का लैब में भीतिके, जैव विज्ञान व रसायन विज्ञान से संबंधित मंडलस हैं जिससे उनमें वैज्ञानिक सुंदरता पैदा होत है।

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'Community leaders can help eradicate superstitions'

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CHANDIGARH: Programmes for the popularisation of science and active participation of community leaders can help in reforming the mindset of people towards superstitions which mainly develop due to one's 'insecurities', said astrophysicist Thamu Padmanabhan on Friday.



He was delivering a public lecture on cosmic motions and calendar systems from Sun, Moon and Stars to Calendar at Tagore Theatre, Sector 18.

As many as 700 students from various schools and colleges of Punjab and Haryana attended the lecture that was organised by the department of science and technology, Chandigarh administration, and the Society for Promotion of Science and Technology in India (SPSTI).

Padmanabhan, a professor at the Inter-University Centre for Astronomy and Astrophysics (IUCAA) in Pune, explained the motion of moon and earth with respect to each other, the sun and different celestial bodies.

He also delved into the solar, lunar and luni-solar calendar systems.

He said our ancestors felt the need to create calendars when they faced difficulty in predicting the advent of seasons.

'UNIQUENESS' OF INDIAN CALENDAR SYSTEM
He described the Egyptian, Babylonian, Islamic (Hijri), Gregorian and Indian calendar systems, and their evolution with time.

Charting out the 'uniqueness' of Indian calendar system, Padmanabhan said, "The concept of tithis and nakshatras help us define fortnights, however, these are not exact calculations. Astronomers use a different method to predict celestial events."

SPSTI secretary Keya Dharamvir said, "The aim of organising such lectures and events is to create awareness about scientific advancements among the masses."

During his interaction with the students, Padmanabhan said that a lot of astronomy developed with astrology as the motivation behind the discoveries.

गणित हर जगह, लेकिन भगवान की तरह दिखता नहीं

- गणित विभाग, पंजाब विश्वविद्यालय में व्याख्यान आयोजित
- सोसायटी फॉर प्रमोशन ऑफ साइंस एंड टेक्नोलॉजी द्वारा

ह्यूमन इंडिया/व्यूरो

गुरुग्राम/पटौदी। गणित हर कदम पर और जगह-जगह मौजूद है, लेकिन भगवान की तरह दिखाई नहीं देता है। सोसायटी फॉर प्रमोशन ऑफ साइंस एंड टेक्नोलॉजी द्वारा भारत में अपनी नियमित मासिक व्याख्यान श्रृंखला के रूप में आयोजित किया जाता है। यह जानकारी प्रो एके अग्रवाल, गणित विभाग पंजाब विश्वविद्यालय के द्वारा दी गई है। सोसायटी फॉर प्रमोशन ऑफ साइंस एंड टेक्नोलॉजी इन इंडिया के अध्यक्ष हरियाणा के पूर्व मुख्य सचिव एवं पूर्व चुनाव आयुक्त धर्मवीर हैं।

सोसायटी फॉर प्रमोशन ऑफ साइंस एंड टेक्नोलॉजी इन इंडिया की महासचिव केया धर्मवीर द्वारा मीडिया के जानकारी साझा करते बताया गया है कि प्रोफेसर अग्रवाल गणित का योगदान मान्यता प्राप्त है। प्रो एके अग्रवाल के मुताबिक यहाँ तक कि विज्ञान की अन्य शाखाओं से जुड़े लोगों ने भी बीजगणित और टोपोलॉजी जैसे अमूर्त गणित को पढ़ाने के लिए इसे बहुत अच्छा माना है। इसी तरह कई ऐसे लोग भी हैं जिन्हें लगता है कि गणित एक मृत विज्ञान है। हालाँकि हम डिजिटल संचार के युग में रह रहे हैं, और उपग्रह संचार कोडिंग सिद्धांतों पर आधारित है। जो परिमित क्षेत्र सिद्धांतों का उपयोग करते हैं,

बीजगणित का एक हिस्सा है। यदि हम बीजगणित पढ़ाना और सीखना बंद कर देंगे तो क्या ऐसे संचार सिद्धांत और व्यवहार विकसित होंगे? इसी तरह, क्रिप्टोग्राफी प्राइम नंबर का उपयोग करता है, जबकि टोपोलॉजी का उपयोग डेटा साइंस में किया जाता है। ऐसे उदाहरणों की अधिकता है। ब्रह्मांड को गैलिलियो से केपलर से न्यूटन से आइंस्टीन तक समझना केवल गणित के कारण ही संभव हो पाया है। गणित हमारे चारों तरफ मौजूद है।

उन्होंने कहा है कि भौतिक विज्ञान, रसायन विज्ञान, जीवन विज्ञान और जैविक विज्ञान जैसे शुद्ध विज्ञान के अलावा, मनोविज्ञान और सामाजिक विज्ञान में भी गणितीय मॉडल का उपयोग किया जाता है। वैज्ञानिकों द्वारा की जाने वाली भविष्य की भविष्यवाणी में (ज्योतिषी नहीं) गणित का व्यापक उपयोग करते हैं। वे जलवायु परिवर्तन, भूकंप, सुनामी इत्यादि का पूर्वानुमान लगाते हैं, स्कूलों में गणित पढ़ाने के लिए बहुत कुछ करता है। यह वास्तव में एक लोकप्रिय विषय नहीं है, क्योंकि इस विषय की कठिनाई या उपयोगिता से जुड़े मिथक हैं। गणित को और अधिक आकर्षक बनाने की जरूरत है। कुछ लोगों का अज्ञान गणित के महत्व को नहीं पहचान सका जो जीवन के हर क्षेत्र में लागू होता है।

प्रतिभाशाली बच्चों को उपायुक्त ने किया सम्मानित

■ समर साईस कैप का हुआ समापन

पलवल, 25 जून (ब्यूरो): पलवल के महात्मा गांधी सामुदायिक केंद्र एवं पंचायत भवन में मंगलवार को समर साईस कैप का समापन किया गया। इस अवसर पर जिला उपायुक्त यशपाल ने प्रतिभाशाली बच्चों को पुरस्कार देकर सम्मानित किया गया। इस मौके पर खेल एवं सांस्कृतिक कार्यक्रम का भी आयोजन किया गया।

पलवल शिक्षा विभाग एवं बाल कल्याण परिषद की तरफ से 9वीं कक्षा से लेकर 12वीं कक्षा तक के बच्चों के लिए समर साईस कैप का आयोजन किया गया। समर साईस कैप में जिले के 150 छात्र एवं छात्राओं ने भाग लिया।

उक्त सभी बच्चों को आईआईटी के टॉपर विद्यार्थियों ने साईस और गणित के विषयों को पढ़ने संबंधित

जानकारी प्रदान की इसके अलावा छात्र एवं छात्राओं को विभिन्न प्रतियोगिता परीक्षाओं की तैयारी के टिप्स प्रदान किए गए। जिला उपायुक्त यशपाल ने कहा कि समर साईस कैप में भाग लेने वाले सभी बच्चों ने पढ़ाई के बारे में काफी कुछ ज्ञान हासिल किया है। यह शिक्षा जीवन भर उनके काम आएगी।

उन्होंने कहा कि समर साईस कैप के बाद सभी विद्यार्थी देश के भविष्य को सजाने व सवारने का काम करें। अपने आस पड़ोस के बच्चों को शिक्षित करें। उनके जीवन में फैले अंधकार को दूर कर उजाला फैलाने का काम करें। उपायुक्त ने कहा कि समर साईस कैप में शिक्षा हासिल करने वाले



पलवल के उपायुक्त यशपाल छात्राओं को सम्मानित करते हुए।

विद्यार्थी देश का भविष्य है। जो विभिन्न क्षेत्रों में जाकर देश का नवनिर्माण करेंगे। ऐसे में देश को स्वच्छ बनाने में भी विद्यार्थी अहम भूमिका निभा सकते हैं। यहां से जाने के बाद सभी बच्चे सबसे पहले अपने घर की सफाई करें। साफ व गीले कूड़े को अलग करें। अगल-अलग बॉक्स में डले ताकि इस कूड़ा को री साईकिल किया जा सके।

पहल

कैथल में 240 बच्चों को संस्था दे रही मुफ्त में कोचिंग

छुट्टियों में तैयार हो रहे डॉक्टर और इंजीनियर

विक्रम पूनिया • कैथल

राजकीय कन्या वरिष्ठ माध्यमिक विद्यालय जाखौली अड़डा में सरकारी स्कूलों के विद्यार्थियों को डॉक्टर व इंजीनियर बनाने की कोचिंग एक जून से शुरू हो गई है। अब 24 जून तक कैथल के विभिन्न स्कूलों के 240 विद्यार्थियों को गणित व विज्ञान की निशुल्क कोचिंग दी जाएगी। इन विद्यार्थियों का चयन सभी स्कूलों से कक्षा में आए नंबरों के आधार पर किया गया है। खास बात ये है कि कोचिंग देने वाले छात्र देश के सर्वोच्च शिक्षण संस्थान आईआईटी व ब्रिटिस पिलानी में पढ़ाई कर रहे हैं। विज्ञान व गणित से बच्चों के होते मोह भंग के बाद सोसायटी फॉर प्रमोशन ऑफ साईंस एंड टेक्नोलॉजी इन इंडिया पंचकुला ने यह कदम उठाया है। स्कूल में प्राचार्य पवन धीमान भी छात्रों व संस्था के सदस्यों को पूरा सहयोग कर रहे हैं।



राजकीय कन्या स्कूल में इंजीनियर व डॉक्टर की कोचिंग लेते विद्यार्थी • जाखण

पिछले वर्ष से लग रही हैं कक्षाएं

संस्था ने शिक्षा विभाग के सहयोग से कैथल में पिछले वर्ष भी जून की छुट्टियों में कक्षाएं लगाई थी। संस्था के मैनेजर अनुज गोयल ने बताया कि कैथल उन जिलों में शामिल था जहां कक्षाएं बहुत अच्छी चली थी। अंत तक भी विद्यार्थियों की संख्या कम नहीं हुई थी। छोटा शहर होने और महंगी होती कोचिंग से गरीब बच्चों के लिए इन विषयों की कोचिंग ले पाना मुश्किल हो रहा है।

छात्र बोले- बहुत लाभ मिला

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समर स्कूल कार्यक्रम में गणित एवं विज्ञान विषय में विद्यार्थियों की रुचि बढ़ाने के लिए दिए जाएंगे बेसिक टिप्स

अम्बाला सिटी | गमी की छुट्टियों में प्रदेश के 11 जिला में समर स्कूल कार्यक्रम का आयोजन किया जाएगा। समर कैम्प का आयोजन विज्ञान और गणित विषय की रुचि को बढ़ाने के लिए शिक्षा विभाग की ओर आयोजित किया जा रहा है। इसमें नौवीं से बारहवीं कक्षा तक के राजकीय स्कूलों में पढ़ रहे विद्यार्थियों को आईआईटी व अन्य प्रतिष्ठित संस्थानों के विद्यार्थी पढ़ाने के लिए आएंगे। समर स्कूल 1 जून से 24 जून तक चलेगा। इसमें प्रातः 8 बजे से दोपहर 1 बजे तक कक्षाएं लगाई जाएंगी। जिला शिक्षा अधिकारी उमा शर्मा ने बताया कि अम्बाला जिले में राजकीय कन्या वरिष्ठ माध्यमिक विद्यालय पुलिस लाइन अम्बाला शहर को चुना गया है। विद्यालय के विद्यार्थियों को रजिस्ट्रेशन फार्म राजकीय कन्या वरिष्ठ माध्यमिक विद्यालय पुलिस लाइन अम्बाला शहर में जमा करवाने होंगे। प्रत्येक कक्षा के लिए 65 छात्रों का चयन होगा। जिसके लिए आवेदनदाता छात्रों के चयन के लिए टेस्ट भी लिया जाएगा। जिला गणित विशेषज्ञ योगेश अरोड़ा की देखरेख में समर कैम्प चलाया जाएगा। समर स्कूल में विद्यार्थियों को गणित एवं विज्ञान विषय के बेसिक टिप्स दिए जाएंगे।

बनौदी की फोटो

बनौदी गांव में...
करते वक्त खनन...
फोटो खींचकर...
शहरजदपुर धान...
है। खनन विभाग...
कुमार, दयाल...
दाताराम ने बने...
किया तो फाव...
मात्रा में रेत का...
उस समय मैकि...
यहां नहीं था। न...
फोटो सुनील ने...
स्थानीय लोगों...
तो पता चला कि...
के मुख्यमंत्री...

11 जिलों के राजकीय स्कूलों में लगेंगे समर कैम्प

जगमण संवाददाता, अंबाला शहर : प्रदेश शिक्षा विभाग ने 10वीं और 12वीं में बेहतर परिणाम लाने के लिए इस साल के शुरुआत में ही सार्थक पहल कर दी है। इस पहल के तहत सरकारी स्कूलों में पढ़ने वाले 9वीं से 12वीं कक्षा तक के जिलेभर के विद्यार्थियों के गणित और साइंस के बेसिक फंडे क्लियर किए जाएंगे। इसके लिए समर कैम्प लगाए जाएंगे। सभी 11 जिलों में एक सरकारी स्कूल को सेंटर बनाया जाएगा। वहीं पर जिलेभर के सरकारी स्कूलों के वह विद्यार्थी हिस्सा लेंगे जोकि रजिस्ट्रेशन करवाएंगे।

गणित और साइंस के बेसिक फंडे क्लियर करेंगे प्रतिष्ठित संस्थानों के होनहार, पहली बार शिक्षा विभाग ने उदाया कदम

23 मई तक करा सकते हैं रजिस्ट्रेशन

इस समर कैम्प में हिस्सा लेने के लिए जिलेभर के विद्यार्थी 23 मई तक अपना रजिस्ट्रेशन करा सकते हैं। जिलेभर से प्रत्येक कक्षा में 65 विद्यार्थी शामिल हो सकते हैं। ज्यादा संख्या होने पर टैट कर लिया जाएगा। गणित विशेषज्ञ योगेश अरोड़ा ने बताया कि इसमें गणित और साइंस के बेसिक फंडे क्लियर किए जाएंगे।

विज्ञान और गणित विषय की रुचि बढ़ाने के लिए शिक्षा विभाग की ओर से ग्रीष्मकालीन अवकाश में 11 जिलों में समर कैम्प लगाया जाएगा। इसमें 9वीं से 12वीं तक राजकीय स्कूलों में पढ़ रहे विद्यार्थियों को आईआईटी व एनआईटी जैसे संस्थानों में पढ़ने वाले विद्यार्थी बच्चों से अपने अनुभव साझा करते हुए उन्हें कोचिंग देंगे। यह समर कैम्प 1 जून से 24 जून तक लगाए जाएंगे। इसमें सुबह

8 बजे से दोपहर एक बजे तक कक्षाएं लगेंगी। अंबाला जिले की बात करें तो यहां राजकीय कन्या विद्यालय पुलिस लाइन में वह समर कैम्प लगेगा।

30 लाख की लागत से कॉलेज में लैब का होना था कार्य, तीसरे माह भी नहीं पीडब्ल्यूडी बीएंडआर को इससे उनकी पढ़ाई में बाधा भी पड़े



Experts discuss ways to develop scientific temperament

TRIBUNE NEWS SERVICE

BATHINDA, APRIL 27
A two-day teachers' training workshop to enhance scientific temperament among teachers and students started at Central University of Punjab (CUP) on Saturday.



A workshop to enhance scientific temperament among teachers and students being held at CUP, Bathinda, on Saturday. TRIBUNE PHOTO

The event was organised under Ministry of Human Resource Development's (MHRD) Rashtriya Avishkar Abhiyan, in collaboration with the Tata Institute of Fundamental Research and Society for Promotion of Science and Technology in India (SPSTI). The inaugural session was presided over by Vice-Chancellor Professor RK Kohli. The keynote speaker of this session was Professor PK Joshi from Homi Bhabha Centre for Science Education (HBCSE). The programme aimed at providing hands-on experience in experiments related to

physics, chemistry and biology, designed by HBCSE, Mumbai. As many as 30 teachers from various institutions of Bathinda participated in the workshop. Professor Joshi mentioned that there was a need to promote science and build scientific aptitude among students. He emphasised that practical demonstration of

various experiments would surely encourage teachers to indulge in thinking across science subjects. Professor Kohli said students have the curiosity to learn science, but they lack opportunities. Further, he urged teachers to encourage students to try out new ideas to develop their interest in science.

...संस्थानों के विद्यार्थियों के साथ-साथ...
...अध्यक्ष बलजीत शर्मा, जगमण संवाददाता के सचिव जगमण संवाददाता के सचिव जगमण संवाददाता के सचिव...

जीवन में ज्ञान और विज्ञान का बहुत महत्व: धर्मवीर



कैम्प में छात्रों को पौधा भेंट करते मुख्यातिथि।

गवर्नमेंट सीसे स्कूल में एक जून से चल रहे साइंस एवं मैथमेटिक्स कैम्प का समापन सोमवार को किया गया। कार्यक्रम में मुख्य अतिथि एडीसी प्रशांत पंकर व पूर्व चीफ सचिव हरियाणा धर्मवीर रहे। सबसे पहले पौधारोपण किया गया। मुख्य अतिथि धर्मवीर ने अपने संबोधन में कहा कि जीवन में ज्ञान और विज्ञान का बहुत महत्व है। ज्ञान गुरु के बिना प्राप्त नहीं हो सकता। उन्होंने कहा कि गुरु का अपमान करके कोई भी व्यक्ति महान नहीं बन सकता। कर्नल राणा ने विद्यार्थियों के अभिरूचि से दूर रहने और हर परिस्थिति में सोच-समझकर निर्णय लेने की बात कही। विद्यालय के प्रधानाचार्य सुरेश कुमार गुलटी ने सभी अतिथियों का विद्यालय में आने के लिए धन्यवाद किया। मौके पर बीईओ जगधरो जय सिंह जुल्का, अनुप कोठियाल, संजय शर्मा, सतीश कांबोज, कमल देव, रामरतन, सतीश, नवीन कांबोज, गुरवंद सिंह, संजय कांबोज, संजय गौतम, सुनील शर्मा, स्मृति शर्मा, भारती सरिता, पुष्पलता, कर्नल राणा, कुलवीर सिंह, संजीव जाड़ा, किरण भारती सहित सभी अत्याधिक मौजूद रहे।

रेलवे से...
...महाराज...
...वैयस जी...
...रस्सा टूटने...
...गनीमत रही...
...नहीं था और...
...गया। सुबह...
...सर्कुराप में...
...अचानक...
...थी उस समय...
...गया। जिस...
...होते बाबा।
...हादसे...
...अधिकारी...
...मौके का...
...में मंडल...
...कहना है...
...में हादसे...
...हो चुकी...
...की जान...
...लिए सुर...
...जाने चां...
...बदलना च...
...उत्तरदाय...
...यूनियन के...
...शंकर सिंह...
...कर्मचारियों...

विद्यार्थी। (सपरा) रास्ते पर चलने के लिए प्रेरित किया।

मोबाइल विज्ञान प्रयोगशाला पर कार्यशाला लगाई

पिपली, 19 अप्रैल (सुकरम): राजकीय वरिष्ठ माध्यमिक विद्यालय दुधला मोरथला में राष्ट्रीय विज्ञान एवं तकनीकी संचार परिषद नई दिल्ली के तत्वावधान में एस.पी.एस.टी.आई. नामक एन.जी.ओ. ने मोबाइल विज्ञान प्रयोगशाला पर एक दिवसीय कार्यशाला लगाई। इसमें कक्षा 9वीं से 12वीं के छात्रों ने भाग लिया। विद्यालय के प्राचार्य रणबीर सिंह ने बताया कि कार्यशाला में छात्रों ने तरंगों, चुम्बक के प्रभाव तथा दर्पण के दैनिक जीवन में उपयोगों की जानकारी हासिल की। इस मौके पर अशोक कुमार, अत्र सिंह, सचिन कुमार, गुलज़ार सिंह आदि अध्यापक उपस्थित थे।



मोबाइल विज्ञान प्रयोगशाला में प्रयोग करते छात्र। (सुकरम)

भाडा सुंदरी वानवैट सुकल चंडे दिखे साईंस मेला आर्जोसित

राज्य ब्रह्म, 29 नवंबर (ससंबेड सिध्द दरसपेड) : भाडवे इलाके दे पुसिप दिंडिआ संसभा भाडा सुंदरी गुरुप आड इंडिटीचिउकस चंडे दी उीप सभा भाडा सुंदरी वानवैट सुकल चंडे दिखे साईंस मेला पर भंडमन आड साईंस आंड टेकनोलजी इंडिंडीआ दे भंडिनेक नान इंडि वेसा दिंडीआन मेला आर्जोसित कीडा गिआ इस दिंडीआन मेले दा उीचापटन संसभा दे उेअरभेन प्रकलवंड सिध्द सिंपु ने आपटे कत कामां नाल उीचापटन कीडा नाल गी उीरतां ने किहा वि मनुंध दी चिंडी विंच उर धां उे दिंडीआन मेसुच हे गूट उंडे दी उंडेगी इस गैस दी गवच है। इस लडी दिंडीआन दिंडीआन लडी वरुड गी सुकल है। इस मेले उे पुंस नुं साडकरी दिंडे गेइआ साईंस मेले दे वेआडनेटेड मेडम अमनदीप वेर ने डेडिउक दिंडीआन दे पुंजेग सिध्द वि चैतन डे गवच सलंटेड, तिडुटेन दे सिपंड, आर वे मंडीअस दा सिपंड सडिउस अडे गडिउस उीरसा दी अरल-वरलडी, सुंवेगी आडरभन अडे सुंवेगी धंडर दा अपिनेन, वपड अडे लेगे दीआं वेचैआं वाडां दे भाडल, दरुदरगी गरीं पुंनड वसुआं दा तिंडीपटे कडवदिआ गिआ। रसाइतिक दिंडीआन दे पुंजेग सिध्द रसाइतिक विरिआवां दा अपिनेन अमल अडे धर दे रसाइतिक गूटां दा अपिनेन अमल अडे धर उीडे डेडिलडवलीने दे पुंवाच पुंजेग रगीं कडवदे गडे। मेव दिंडीआन-मनुंधी पाचट पुंटासी, केन दी अंदरुनी वटउर, दिरल दी वानस दिपी, आदि भाडल दी पुंरुदरगी लडापी गरीं इस सभं पुंटा टिडु दीआं ससादीड नुं सुभमदरगीं गरीं दिचादिआ गिआ इस मेले उे सुसाइटी दे पुंवात सी परमथाल मगीवल न किहा वि दिंडीआन अडे गिमाध दिंडीआं दी पुंवादी लडी वंदिआं दा वंप उं वंप सभं पुंवेगजालवचं विंच हेटा चागेवा है उां वि वंदिआं नुं दिंडीआन दे दिंडीआं दी चंगी उरुं साडकरी मील सके। इस मेले उे आं दे सचे गी मेचरां दा पंडवच कडवे हेडे ड्राइवैकटर पुंजेगल पुं राम सिध्द



भाडा सुंदरी वानवैट सुकल चंडे दिखे साईंस मेला आर्जोसित

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The Society for Promotion of Science & Technology in India (SPSTI) organised an awareness lecture on Covid infection at Tribune Model School, Sector 29-D, Chandigarh. The lecture was delivered by Prof SK Jindal, former head, Department of Pulmonary Diseases, PGIMER, Chandigarh. Prof Jindal talked about laboratory diagnosis, face masks, risk assessment, transmission and susceptibility, treatment and prevention and control measures.

He's battling cancer. but his poor

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12:35 PM Friday 5/7/2020

Our Supporter/Donor Organizations/Collaborators

 <p style="text-align: center;"> <small>संस्कृतम् ज्ञानम्</small> Department of Science and Technology Ministry of Science and Technology Government of India </p>	<p>National Council for Science & Technology Communication, Department of Science & Technology, Government of India has sanctioned the Project Mobile Science Laboratory – Circus of Science for operating in districts Kurukshetra and Mewat for two years w.e.f. December 2018.</p>
	<p>Department of Science & Technology, Chandigarh Administration has been supporting the Society for the last several years to conduct activities in Chandigarh on diversified themes of promoting science. The recent sanctions included Popular Lecture by Prof. T. Padmanabhan at Tagore Theatre, Chandigarh, Celebrating International Year of Periodic Table, Delivering Lectures on Nobel Prizes and a Physics Quiz.</p>
	<p>Department of School Education, Government of Haryana has partially supported the Summer Schools in Science & Mathematics organized in eleven districts of Haryana.</p>
	<p>Intel Corporations Ltd. has donated a sum of Rs. 5 lacs to conduct the summer schools.</p>
	<p>The Society has organized a summer school at B.B.M.B School, Sundernagar, Himachal Pradesh. The Bhakra Beas Management Board has supported the camp.</p>
	<p>ISGEC Heavy Engineering Ltd. is an MNC manufacturing mechanical parts for various industrial usage. The Company has supported the Summer School organized at Government Senior Secondary School, Jagadhri Workshop, Yamunanagar. Earlier in the year 2018, the Company supported the Summer School organized at Govt. Model Sanskriti Senior Secondary School, Bilaspur (Yamunanagar)</p>
	<p>The Society has collaborated with Maur Education Welfare Society (MEWS), an NGO based at Maur, Bathinda (Punjab) to carry forward the activities of promoting science & technology in the areas of Punjab. The MEWS had organized two summer camps this year and one teacher's training workshop in Punjab.</p>
	<p>A Summer School was organized at Doon Public School, Ladwa (Kurukshetra). The School is managed by one of the members of the Society. The Management had born the expenditure of the Summer School.</p>
<p style="text-align: center;"> B.M.B. Senior Secondary School, Dadawas (Gurugram) </p>	<p>A Summer School was organized in collaboration with the school in their premises.</p>
	<p>The Alexander Von Humboldt (AvH) Foundation was established by the government of the Federal Republic of Germany. SPSTI in collaboration with Chandigarh Chapter of AvH Foundation conducted a series of events to commemorate 150 years of the completion of Mendeleev's Periodic Table.</p>

Resource Persons of the Year

Invited Speakers

Prof. T. Padmanabhan (Padma Shri), IUCAA, Pune
 Prof. A.K. Agarwal, Department of Mathematics, Panjab University
 Mr. Pallav Mukharjee
 Dr. Devinder Pal Singh Sehgal, Scientist (Retd.), Department of Forensic Science, Government of Punjab
 Mr. Vivek Attray, IAS (Retd.) & Motivational Speaker
 Prof. Rupinder Tiwari, Coordinator, DST-Centre for Policy Research
 Prof. S.K. Mehta, Department of Chemistry, Panjab University
 Prof. J.S. Bagla, Physical Science, IISER Mohali
 Prof. Alok Srivastava, Professor Emeritus, Panjab University
 Prof. Tej Vir Singh, NIPER Mohali
 Prof. K.K. Bhasin, CSIR Emeritus Scientist, Centre of Advanced Studies in Chemistry
 Prof. Dr. S.K. Jindal, Former Head, Department of Pulmonary Diseases, PGIMER, Chandigarh
 Prof. Dr. D. Behera, OSD, AIIMS, Raebareilly and Former Head, Department of Pulmonary Medicines, PRIMER, Chandigarh
 Prof. Suman B. Beri, Panjab University
 Prof. Keya Dharamvir, Formerly of Panjab University
 Dr. Tamanna R. Sahrawat, Panjab University

Mentors/Students from Universities/ Colleges

Kriti, M.Sc., Panjab University
 Sandeep Jakhar, IISER Mohali
 Pratibha Jadaun, BS-MS, IISER Mohali
 Vikas Kumar Meena, B.Tech, IIT Kanpur
 Nitin Bedwal, IISER Mohali
 Abhishek Kaushik, B.Tech, IIT Tirupati
 Vivek Yadav, BS-MS, IISER Mohali
 Rakesh Verma, Int. M.Sc.-B.Ed, Central University of Rajasthan
 Himanshu Mahendra Jain, B.Tech, SVNIT, Surat
 Prince Tyagi, M.Sc. Central University of Punjab
 Nikhil Attri, B.Tech, IIT Indore
 Kripa Nath, BS-MS, IISER Mohali
 Jai Kishan Mahiya, B.Tech, IIT Kanpur
 Anju Kumari, Int. M.Sc.-B.Ed, Central University of Rajasthan
 Megha, M.Sc., IIT Hyderabad
 Kshama Singhal, IIT Hyderabad
 Vaibhav Lohia, M.Sc., IIT Indore
 Meghna Singh, M.Sc., Central University of Punjab
 Abhinav Dogra, BS-MS, IISER Mohali
 Rolly Sharda, M.Sc., Central University of Rajasthan
 Nikita, M.Sc., NIT Jalandhar
 Aalind Vashisht, B.Tech, Punjab Engineering College, Chandigarh
 Naveen Kumar, B.Tech, IIT Ropar
 Garvit Bhatt, Int. M.Sc., SVNIT Surat
 Harshit Ghosh, BS, IIT Kanpur
 Harashit Jain, IISER Mohali
 Ravi, IISER Mohali
 Rakesh Kumar Meena, Int. M.Sc., SVNIT Surat
 Himanshu Rai, B.Tech, IIT Gandhinagar
 Raunak Ravindra Agarwal, B.Tech, IIT Tirupati
 Shubham Dhull, B.Tech, IIT Ropar
 Som Chaudhary, Int. M.Sc. BITS Pilani

Mentors/Students from Universities/ Colleges

Ankur Soni, Int. M.Sc. BITS Pilani
 Varun Gautam, BS-MS, IISER Mohali
 Karan Singh Yadav, Int. M.Sc., Central University of Rajasthan
 Puneet Jain, M.Sc., Central University, Punjab
 Priyanka Verma, M.Sc., IIT Delhi
 Siddharth Mishra, Int. M.Sc., SVNIT Surat
 Rachna, M.Sc., IIT Ropar
 Komal, M.Sc., Central University of Punjab
 Jishu Dayal, B.Tech, NIT Jamshedpur
 Gulshan Dilip Badole, BS-MS, IISER Mohali
 Yashmeen, M.Sc., Panjab University, Chandigarh
 Sarvottam Sharma, BS-MS, IISER Mohali
 Pavan Kumar Saini, Int. M.Sc., SVNIT, Surat
 Rahul Kumar, M.Sc., IIT Ropar
 Shreyash Tiwari, M.Sc., IIT Kanpur
 Shivangini Jaryal, BS-MS, IISER Mohali
 Manoj Kumar, M.Sc., Central University of Rajasthan
 Deepak Kumar, M.Sc., Central University of Rajasthan
 Monu, BS-MS, IISER Mohali
 Atul Singh, Int. M.Sc., SVNIT Surat
 Lavkesh Sahu, B.E., Panjab University
 Tapeshe Yadav, M.Sc., IIT Jodhpur
 Madhav Pitaliya, BS-MS, IISER Mohali
 Abhishek Sohlot, Int. M.Tech, IIT Hamirpur
 Ashwany Kumar Verma, Int. M.Sc., SVNIT Surat
 Sushil, B.Tech, IIT Kanpur
 Rohit, M.Sc., Central University of Punjab
 Ayush Sidhu, M.Sc., Panjab University
 Richa Singh, M.Sc., IIT Dhanbad
 Milind Kulshreshtha, B.Tech, Punjab Engineering College
 Mudit Dahiya, B.Tech, IIT Ropar
 Neha Dhiman, M.Pharm, Central University of Punjab
 Yashkumar Amrutlal Kavaia, Int. M.Sc., SVNIT Surat
 Ajay, BS-MS, IISER Mohali
 Aashima Jain, M.Sc., IIT Dhanbad
 Fizza Bharti, M.Sc., Panjab University
 Hamveer Singh, B.Tech, IIT Hyderabad
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 Jayant Singh Devra, BS-MS, IISER Mohali
 Abhishek Samlodia, IISER Mohali
 Tarun Garg, IIT Ropar
 Varun Sharma, IIT Ropar
 Nikhil Garg, Panjab University
 Irteza Rizvi, Research Scholar, IISER Mohali
 Gobind Ram, IIT Ropar
 Pooja Verma, Central University of Punjab
 Zeenat Mangla, Thapar University, Patiala
 Ravi Kumar, School Teacher, Kurukshetra

